



UNITED STATES PATENT AND TRADEMARK OFFICE

mt

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,875	06/25/2003	Masahito Honda	OHT-0018	2244

23353 7590 02/23/2007
RADER FISHMAN & GRAUER PLLC
LION BUILDING
1233 20TH STREET N.W., SUITE 501
WASHINGTON, DC 20036

EXAMINER

HANNON, CHRISTIAN A

ART UNIT	PAPER NUMBER
----------	--------------

2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/602,875

Applicant(s)

HONDA, MASAHIITO

Examiner

Christian A. Hannon

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7,9,10,12-14,16-19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,9,10,12,13 and 21 is/are rejected.
- 7) ☒ Claim(s) 4,14 and 16-19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

This action is in response to applicant's response filed on 12/12/2006. Claims 1,3-5,7,9-10,12-14,16-19 & 21 are now pending in the present application. **This action is made final.**

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 5, 7, 9 & 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki (US 2002/0064018).

Regarding claim 1, Suzuki teaches a slide-type multi-directional input key comprising a key top (Figure 1, Items 1 & 6; Page 2, [0035]) which has an upper portion protruding from an insertion hole (Figure 1, Item 2b; Page 2, [0037]) extending through an exterior member (Figure 1, Comprising items 3 & 7) and a lower portion having a pushing member (Figure 1, Item 1b; Page 2, [0036]) protruding downwardly therefrom and which is capable of sliding in the direction of a hole inner surface of the insertion hole, a plurality of contact input portions adapted to effect input upon receiving pressure from the pushing member when the key top is caused to slide (Figure 2, Items 9a-9e;

Art Unit: 2618

Page 3, [0046]) and a key sheet (Figure 1, Item 5) formed of a rubber-like resilient material, the key sheet being adapted to support the key top so as to allow the key top to slide from the initial position in the direction of the hole inner surface of the insertion hole and in the return direction toward the initial position, the key sheet generating an elastic urging force whereby the key top returns automatically to the initial position (Page 2, [0039]; Figure 1, Item 5), wherein the one pushing member is in a central portion of the lower portion of the key top, and the pushing member can effect input through the plurality of the contact input portions (Page 3, [0050]) wherein the key sheet is firmly attached to the key top and the exterior member (Figure 1, Items 1, 3, 5 & 7).

With respect to claim 3, Suzuki teaches the input key of claim 1, wherein the key top is composed of upper (Figure 1, Item 1) and lower (Figure 1, Item 6) key top portions, between which the key sheet is sandwiched for firm attachment.

In regards to claim 5, Suzuki teaches the input key of claim 1, wherein the exterior member has on a back surface thereof a stopper protrusion (Figure 1, Item 7; Page 3, [0043]) for stopping the sliding of the key top before the key top comes into contact with the insertion hole. It is further noted by the examiner that the key top can never come in contact with the insertion hole as the insertion hole is defined by 2a in figure 1 and is firmly attached to the elastic member 5 of figure 1 which always fills the void of the insertion hole (two different objects cannot occupy the same place at the same time).

With respect to claim 7, Suzuki teaches the input key of claim 1, further comprising a central contact portion below the pushing member of the key top at an initial position thereof (Figure 1, Item 5d; Page 3, [0048]).

Regarding claim 9 Suzuki teaches the input key of claim 7, wherein when the key top is at a slide position, the bottom surface of the pushing member is situated above the central contact portion so that the pushing member can effect input through both the contact input portions and the central contact portions (Page 3, [0045]-[0046]).

In regards to claim 21, Suzuki teaches a slide-type multi-directional input key comprising a key top (Figure 1, Items 1 & 6; Page 2, [0035]), including an upper portion protruding from an insertion hole (Figure 1, Item 2b; Page 2, [0037]) extending through an exterior member (Figure 1, Comprising items 3 & 7) and a lower portion having a pushing member (Figure 1, Item 1b; Page 2, [0036]) protruding downwardly therefrom and which is capable of sliding in the direction of a hole inner surface of the insertion hole, a plurality of contact input portions adapted to effect input upon receiving pressure from the pushing member when the key top is caused to slide toward at least one of the contact input portions (Figure 2, Items 9a-9e; Page 3, [0046]) and a flexible film having an exposure hole, the pushing member being adapted to come into contact with the hole inner surface of the exposure hole, the examiner is interpreting the flexible film to be the elastic element 5 of figure 1, and the exposure hole to be synonymous with the insertion hole, wherein the one pushing member is in a central portion of the lower portion of the key top and the pushing member can effect input through the plurality of the contact input portions (Page 3, [0050]).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10, 12 & 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Strohmeier (US 6,871,060).

Regarding claim 10, Suzuki teaches the input key of claim 1, however fails to teach wherein the exterior member is a ring-shaped outer-ring key top allowing multi-directional input. Strohmeier teaches wherein an exterior member has a ring-shaped outer-ring key top allowing multi-directional input (Figure 1, Item 2 & 2a; Column 2, Lines 22-24 & 43-45; Strohmeier). Therefore it would have been obvious to implement Strohmeier's teaching into Suzuki in order to provide for more tactile input capacity (Page 6, [0116] Suzuki). It is noted by the examiner that Strohmeier teaches the exterior member's ring shaped outer key is a volume control knob, which obviously has two directions (volume up and volume down).

With respect to claim 12, Suzuki teaches the input key of claim 5, however fails to teach wherein the exterior member is a ring-shaped outer-ring key top allowing multi-directional input. Strohmeier teaches wherein an exterior member has a ring-shaped outer-ring key top allowing multi-directional input (Figure 1, Item 2 & 2a; Column 2, Lines 22-24 & 43-45; Strohmeier). Therefore it would have been obvious to implement

Art Unit: 2618

Strohmeier's teaching into Suzuki in order to provide for more tactile input capacity (Page 6, [0116] Suzuki). It is noted by the examiner that Strohmeier teaches the exterior member's ring shaped outer key is a volume control knob, which obviously has two directions (volume up and volume down).

Suzuki teaches the input key of claim 13, however fails to teach wherein the exterior member is a ring-shaped outer-ring key top allowing multi-directional input. Strohmeier teaches wherein an exterior member has a ring-shaped outer-ring key top allowing multi-directional input (Figure 1, Item 2 & 2a; Column 2, Lines 22-24 & 43-45; Strohmeier). Therefore it would have been obvious to implement Strohmeier's teaching into Suzuki in order to provide for more tactile input capacity (Page 6, [0116] Suzuki). It is noted by the examiner that Strohmeier teaches the exterior member's ring shaped outer key is a volume control knob, which obviously has two directions (volume up and volume down).

Allowable Subject Matter

5. Claims 4, 14 & 16-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 4, Suzuki teaches the input key of claim 1, however Suzuki fails to teach wherein the key sheet includes an inclined portion spreading out from the portion firmly attached to the key top, and an arch-shaped curved portion formed by upwardly bending the inclined portion starting with its lower end portion, and wherein

Art Unit: 2618

the wall thickness of an erect wall portion in the outer periphery of the curved portion is larger than the wall thickness of an erect wall portion on the inner periphery thereof and that of the inclined portion.

With regard to claim 14, Suzuki teaches the input key of claim 1, however Suzuki fails to teach wherein the plurality of contact input portions are formed by a membrane switch composed of a base film with a plurality of lower contact portions, a flexible film with a plurality of upper contact portions corresponding to the lower contact portions, and a spacer film forming a predetermined gap between the base film and the flexible film.

Response to Arguments

6. Applicant's arguments filed 12/12/2006 have been fully considered but they are not persuasive.

Applicant contends that Suzuki fails to disclose, teach or suggest the fixed electrode 9 as being a plurality of contact input portions adapted to effect input upon receiving pressure from the alleged pushing member 1b when the alleged key top 1 is caused to slide (Page 10, second paragraph, Applicant's Remarks). The Examiner wishes the Applicant to be made aware that as plurality means two or more Suzuki does in fact teach a plurality of contact input portions, albeit on the same fixed electrode, however as these plurality of contact input portions (Items 9a-9e; Figure 2; Suzuki) are each electrically isolated from one another they dictate a plurality of input portions as each is separate relative of the others. The Applicant further contends that plurality of contact input portions are not adapted to effect input upon receiving pressure from the

Art Unit: 2618

alleged pushing member 1b when the alleged key top 1 is caused to slide (Page 10, second paragraph, Applicant's Remarks). The Applicant is then directed to paragraphs [0055] through [0058] which clearly teach one example of how this takes place, items 1b, 5 and 9 of Figure 1 and Figure 2, all work in tandem. In the cited example when a user pushes, or applies a force or pressure in the X or Y direction this in turn causes the movable electrode 5d to cause a change in capacitance over electrode 9 thereby creating an input to the device. Similarly if a user were to apply a force in the Z direction a conjunctive operation of key top 1 being forced downward into member 5 thereby effecting input on electrode portion 9a. As this is a static system, when a force is applied downward in the Z direction some force or pressure is inherent upon the fixed electrode (Page 4, [0063-0064]; Suzuki). Therefore Suzuki does disclose that the fixed electrode 9 is a plurality of contact input portions adapted to effect input upon receiving pressure from pushing member 1b when key top 1 is caused to slide. Furthermore the Applicant contends Strohmeier fails to disclose teach or suggest a plurality of contact input portions adapted to effect input upon receiving pressure from the pushing member when the key top is caused to slide. However this argument is moot, as Strohmeier does not need to teach this as the Examiner has shown Suzuki teaches this feature. Lastly the Examiner wishes to draw the Applicant's attention to claims 4, 14 & 16-19 which have been objected to as being dependent upon a rejected base claim but would be allowable if rewritten independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian A. Hannon whose telephone number is (571) 272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

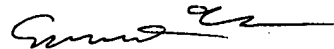
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



C. A. Hannon
February 16, 2007



EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800